

Appl. No. 09/817,107

IN THE CLAIMS

Please amend Claim 4 as follows.

1. (Previously Presented) An integrated circuit provided with a substrate and with a memory having a first heat-programmable memory element, which memory element comprises:

a first electrode and a second electrode;

an electrically conducting bridge providing an electrical path between said first electrode and said second electrode;

wherein said electrically conducting bridge comprises an electrically conducting organic material, the bridge having both a non-programmed state and a programmed state, wherein in a non-programmed state the bridge comprises a first conduction state in which a first conduction current level flows through the organic material between the first electrode and the second electrode of the memory element below a transition temperature, and a programmed state comprises a second conduction state in which the current level flows through the organic material by at least a predetermined amount less than said first conduction current level when the organic material is above said transition temperature, wherein the organic material is programmed by heating the memory element to said transition temperature that reduces conduction through predetermined portions thereof to;

said bridge is at least partly interrupted in the programmed state so that conduction therein is reduced from when said bridge was in the non-programmed state.

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2. (Previously Presented) An integrated circuit as claimed in claim 1, wherein a first transistor is present which during programming provides a voltage across the first memory element so as to heat the first memory element.

3. (Previously Presented) An integrated circuit as claimed in claim 1, further comprising an electrical conductor track being arranged therein for limiting heat dissipation from the bridge, perpendicular projections of said conductor track and of the bridge on the substrate overlapping each other.

4. (Currently Amended) An integrated circuit as claimed in claim 1, wherein the substrate is a laminated product of a porous layer {1} and a covering layer {2}.

5. (Previously Presented) An integrated circuit as claimed in claim 1, wherein the first memory element has a spiraling or meandering shape.

6. (Previously Presented) An integrated circuit as claimed in claim 1, wherein the first memory element is also programmable by optical means.

7. (Previously Presented) An integrated circuit as claimed in claim 2, wherein a first patterned electrically conducting layer is present on a substrate, in which layer the bridge of the memory element and a first transistor electrode of the first transistor are present.

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8. (Previously Presented) An integrated circuit as claimed in claim 7, wherein the bridge is adapted to function as a conductor track that limits heat dissipation by having a smaller width than the first transistor electrode of the first transistor and than the first electrode of the first memory element.

9. (Previously Presented) An integrated circuit as claimed in claim 7, wherein the first patterned layer comprises an organic material chosen from the group of polyaniline and poly(3,4-ethylenedioxythiophene).

10. (Previously Presented) A transponder comprising an integrated circuit and an antenna, and an electrically conducting connection between the antenna wherein the integrated circuit as claimed in claim 1 is present.

11. (Previously Presented) A security paper comprising an integrated circuit, wherein the integrated circuit as claimed in claim 1 is present.

12. (Cancelled)